Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An apparatus for treating a workpiece with a plasma, comprising:

a vacuum chamber having a processing space;

a gas supply in fluid communication with said vacuum chamber, said gas supply operable to selectively provide a process gas into said processing space;

a vacuum source coupled by a vacuum port for fluid communication with said vacuum chamber;

a workpiece-holding portion positioned in the processing space and configured for receiving and supporting the workpiece;

a plasma excitation source operable for exciting the process gas in said processing space to generate a plasma;

a vacuum distribution baffle positioned between said vacuum port and said workpiece-holding portion, said vacuum distribution baffle being formed from an electrically-insulating material;

an electrical feedthrough extending through said vacuum distribution baffle; and

a powered electrode positioned between said vacuum distribution baffle and said workpiece-holding portion and between said vacuum distribution baffle and said vacuum port, said powered electrode ~~operably~~ electrically connected to said plasma excitation source by said

electrical feedthrough and said powered electrode in electrical continuity with said workpiece-holding portion, said powered electrode being electrically shielded from said vacuum chamber by said vacuum distribution baffle.

2. (Original) The apparatus of claim 1, wherein said powered electrode is part of an assembly which includes said workpiece-holding portion.

3. (Currently Amended) The apparatus of claim 1, wherein said workpiece-holding portion [[is]] includes first and second side rails that are adjustable in width to accommodate workpieces of different widths positioned therebetween.

4. (Original) The apparatus of claim 1, wherein the chamber further comprises a lid and a lower chamber portion and a seal therebetween, said lid being connected to said lower chamber portion by a hinge having at least one obround bearing groove for accommodating substantially vertical compression of the seal as vacuum pressure is applied through said vacuum port.

5. (Original) The apparatus of claim 1 further comprising a ground electrode positioned on an opposite side of said workpiece holding portion relative to said powered electrode.

6. (Original) The apparatus of claim 5, wherein said powered electrode and said ground electrode are approximately equidistant from said workpiece holding portion, said electrodes producing an electric field substantially perpendicular to said workpiece when said workpiece is received in said workpiece holding portion.

7. (Original) The apparatus of claim 6, wherein said chamber includes a lid movable between open and closed positions for introducing and removing the workpiece to and from said workpiece holding portion, said lid further comprising said ground electrode.

8. (Cancelled)

9. (Original) The apparatus of claim 1, wherein said chamber includes a lid movable between open and closed positions for introducing and removing the workpiece to and from said workpiece holding portion, said lid further including said process gas inlet port for introducing process gas to said processing space.

10. (Original) The apparatus of claim 9, wherein said lid includes an interior surface facing said workpiece holding portion of said processing space when said lid is in said closed position, and said process gas inlet port further comprises a gas distribution space within said lid and an array of apertures on said interior surface configured to uniformly distribute the process gas from said gas distribution space onto the workpiece.

11. (Original) An apparatus for treating a workpiece with plasma, comprising:

a chamber having a chamber base, an access member movable between an open position and a closed position, an interior workpiece holding portion configured to receive the workpiece, and a sealing member between said chamber base and said movable access member to seal said interior workpiece holding portion in said closed position;

a gas supply in fluid communication with the vacuum chamber, said gas supply operable to selectively provide a process gas into the interior of said chamber;

an electrode assembly positioned within said chamber and in electrical continuity with said workpiece holding portion;

a plasma excitation source operably connected to said electrode assembly for exciting the process gas within said chamber to generate a plasma;

a vacuum source coupled by a vacuum port for fluid communication with the interior of said chamber; and

a hinge coupling said chamber base to said access member, said hinge including at least one obround bearing groove for accommodating substantially vertical compression of the sealing member as vacuum pressure is applied through said vacuum port.

12. (Original) The apparatus of claim 11, wherein said sealing member is electrically conductive so that said access member and said chamber base are in electrical continuity when the access member is in a closed position.

13. (Original) The apparatus of claim 11, wherein said obround bearing includes an opening having a substantially oval cross-sectional profile, said opening receiving a hinge pin of said hinge coupling.

14. (Original) An apparatus for processing a workpiece with a process gas, comprising:

a chamber having a processing space and a workpiece holding portion configured to receive the workpiece;

a gas supply in fluid communication with the vacuum chamber, said gas supply operable to selectively provide a process gas into the processing space;

a powered electrode positioned on one side of said workpiece holding portion;

a plasma excitation source operably connected to said powered electrode assembly for exciting the process gas within said processing space to generate a plasma; and

a ground electrode positioned on an opposite side of said workpiece holding portion relative to said powered electrode, said powered electrode and said ground electrode being approximately equidistant from said workpiece holding portion, said powered and ground electrodes together producing an electric field substantially perpendicular to said workpiece when said workpiece is received in said workpiece holding portion.

15. (Original) The apparatus of claim 14, wherein said chamber includes a lid movable between open and closed positions for introducing and removing the workpiece to and from said workpiece holding portion of said processing space, said lid further comprising said ground electrode.

16. (Original) The apparatus of claim 15, wherein said lid further includes a process gas inlet port for introducing process gas to said processing space.

17. (Original) The apparatus of claim 16, wherein said lid includes an interior surface facing said workpiece holding portion of said processing space when said lid is in said closed position, and said process gas inlet port further comprises a gas distribution space within said lid and an

array of apertures on said interior surface configured to uniformly distribute the process gas from said gas distribution space onto the workpiece.

18. (Original) An apparatus for treating a workpiece with plasma, comprising:

a chamber having a processing space with a workpiece holding portion configured to receive the workpiece;

a gas supply in fluid communication with the vacuum chamber, said gas supply operable to selectively provide a process gas into said processing space;

a plasma excitation source operable for exciting the process gas in the processing space to generate a plasma;

a vacuum source coupled for fluid communication with said processing space;

an electrode assembly positioned within said processing space for directing an electric field relative to said workpiece holding portion of said processing space;

a lid coupled with said chamber and movable between open and closed positions for introducing and removing the workpiece to and from said workpiece holding portion of said processing space; and

a process gas inlet port in said lid and coupled in fluid communication with said processing space when said lid is in said closed position.

19. (Original) The apparatus of claim 18, wherein said lid includes an interior surface facing said workpiece holding portion of said processing space when said lid is in said closed position, and said process gas inlet port further comprises a gas distribution space within said lid and an

array of apertures on said interior surface configured to uniformly distribute the process gas from said gas distribution space onto the workpiece.

20. (Withdrawn) A method for treating a workpiece with a plasma, comprising:

positioning a workpiece on a workpiece-holding portion within a processing space of a vacuum chamber, said vacuum chamber having an interior surface facing said workpiece holding portion, wherein said interior surface including an array of apertures configured to uniformly distribute said process gas about said surface of said workpiece;

evacuating the processing space;

initiating a flow of a process gas through said array of apertures into the processing space, wherein said flow lines of process gas are symmetrical over the surface of the workpiece; and

applying plasma excitation power to create a plasma from the process gas in the processing space.

21. (Withdrawn) A method for treating a workpiece with a plasma, comprising:

positioning a workpiece on a workpiece-holding portion within a processing space of a vacuum chamber;

initiating a flow of a process gas into said processing space

evacuating the processing space through a vacuum port in fluid communication with said vacuum chamber, said chamber further including a vacuum distribution baffle positioned between said vacuum port and said workpiece-holding portion, wherein said baffle provides symmetrical lines of flow of said process gas over said surface of said workpiece; and

applying plasma excitation power to create a plasma from the process gas in the processing space.

22. (Withdrawn) The method of claim 21, wherein said vacuum distribution baffle comprises an electrically-insulating material and said baffle is operable to confine said plasma to a portion of said processing space adjacent said workpiece holding portion.

23. (Withdrawn) A method of operating a plasma treatment system comprising:

transferring a workpiece to be processed into a processing chamber;

decreasing pressure within the processing chamber;

initiating a flow of process gases into the processing chamber;

applying an RF power of a relatively-low power level to electrodes within the processing chamber to create a gas plasma, thereby initiating a plasma treatment cycle;

matching an impedance of an RF system including the electrodes at the relatively-low power level to a desired impedance;

increasing RF power to the electrodes from the relatively-low power level to a relatively-high power level;

continuously matching the impedance of the RF system to the desired impedance while increasing the RF power to the electrodes;

maintaining the RF power at the relatively-high power level;

continuously matching the impedance while maintaining the RF power to the electrodes at or near the relatively-high power level;

detecting an end of the plasma treatment cycle; and

terminating the flow of process gases to the processing chamber and the application of RF power to the electrodes after detecting the end of the plasma treatment cycle.

24. (Withdrawn) The method of operating a plasma treatment system of claim 23 further comprising decreasing RF power to the electrodes in response to detecting an end of the plasma treatment cycle.

25. (Withdrawn) The method of operating a plasma treatment system of claim 23 further comprising increasing RF power to the electrodes at a maximum rate permitting a continuous matching of the impedance of the RF system to the desired impedance.

26. (Withdrawn) The method of operating a plasma treatment system of claim 25 further comprising decreasing RF power to the electrodes at a rate substantially equal to the maximum rate.

27. (Withdrawn) The method of operating a plasma treatment system of claim 23 further comprising increasing RF power to the electrodes over a shortest period of time while permitting a matching of the impedance of the RF system to the desired electrodes.

28. (Withdrawn) The method of operating a plasma treatment system of claim 27 further comprising decreasing RF power to the electrodes over substantially the shortest period of time.

29. (Withdrawn) The method of operating a plasma treatment system of claim 23 further comprising increasing the pressure within the processing chamber after detecting the end of the plasma treatment cycle.

30. (Withdrawn) A method of operating a plasma treatment system comprising:

transferring a workpiece to be processed into a processing chamber;

evacuating the processing chamber to an upper pressure limit;

initiating a flow of process gases into the processing chamber;

applying RF power to electrodes within the processing chamber to create a gas plasma, thereby initiating a plasma treatment cycle;

matching an impedance of an RF system including the electrodes to a desired impedance;

continuing to evacuate the processing chamber during the plasma treatment cycle to a pressure greater than or equal to a lower pressure limit while continuously matching the impedance of the RF system to the desired impedance;

detecting an end of the plasma treatment cycle; and

terminating the flow of process gases to the processing chamber and the application of RF power to the electrodes after detecting the end of the plasma treatment cycle.

31. (Withdrawn) The method of operating a plasma treatment system of claim 30 further comprising the steps of monitoring pressure within the processing chamber at least between the upper and lower pressure limits and controlling the flow of process gases into the processing chamber based on the monitored pressure.

32. (Withdrawn) The method of operating a plasma treatment system of claim 30 wherein the upper pressure limit equals a normally used processing pressure value plus an incremental offset pressure value.

33. (Withdrawn) The method of operating a plasma treatment system of claim 32 wherein the lower pressure limit equals the normally used processing pressure value minus the increment offset pressure value.

34. (Withdrawn) The method of operating a plasma treatment system of claim 33 further comprising increasing pressure in the processing chamber after detecting the end of the plasma treatment cycle.

35. (Withdrawn) A method of operating a plasma treatment system comprising:

transferring a workpiece to be processed into a processing chamber;

operating a vacuum system to decrease pressure within the processing chamber to a first partial vacuum;

operating a mass flow controller to initiate a flow of process gases into the processing chamber;

operating in response to the first partial vacuum in the chamber an RF generator to apply RF power of a lesser, first power level to electrodes within the processing chamber to create a gas plasma, thereby initiating a plasma treatment cycle;

operating a tuning network to match an impedance of an RF system including the RF generator and the electrodes to a desired impedance with the electrodes being supplied the first power level;

operating the RF generator to increase RF power to the electrodes to a greater, second power level;

operating the tuning network to match the impedance of the RF system to the desired impedance with the electrodes being supplied with the second power level;

operating the RF generator to maintain the RF power at the greater, second power level;

operating the vacuum system and the mass flow controller to decrease pressure within the processing chamber to a second partial vacuum;

continuously operating the tuning network to match the impedance of the RF system to the desired impedance while maintaining the RF power to the electrodes at the greater, second power level;

detecting an end of the plasma treatment cycle;

operating the mass flow controller to terminate the flow of process gases to the processing chamber after detecting the end of the plasma treatment cycle;

operating the RF generator to terminate the application of RF power to the electrodes after detecting the end of the plasma treatment cycle; and

increasing pressure within the processing chamber to approximately atmospheric pressure.

36. (Withdrawn) The method of operating a plasma treatment system of claim 35 further comprising operating the RF generator to increase the RF power to the electrodes at the highest

rate permitting an operation of the tuning network to continuously match the impedance of the RF system to the desired impedance.

37. (Withdrawn) The method of operating a plasma treatment system of claim 36 further comprising monitoring pressure within the processing chamber between upper and lower pressure limits.

38. (Withdrawn) The method of operating a plasma treatment system of claim 37 further comprising operating the vacuum system to decrease the pressure in the processing chamber to the second partial vacuum substantially simultaneously with detecting the end of the plasma treatment cycle.

39. (Withdrawn) The method of operating a plasma treatment system of claim 38 further comprising operating the RF generator to decrease RF power to the electrodes from the greater, second magnitude to the lesser, first magnitude after detecting the end of the plasma treatment cycle.

40. (Withdrawn) The method of operating a plasma treatment system of claim 39 further comprising operating the tuning network to continuously match the impedance of the RF system to the desired impedance while decreasing the RF power to the electrodes.

41. (Withdrawn) The method of operating a plasma treatment system of claim 40 further comprising providing a delay period operating the tuning network to continuously match the

impedance of the RF system to the desired impedance while decreasing the RF power to the electrodes.

42. (Withdrawn) The method of operating a plasma treatment system of claim 35 further comprising opening a bleed valve to increase pressure within the processing chamber to substantially atmospheric pressure.

43. (Withdrawn) The method of operating a plasma treatment system of claim 35 further comprising providing a delay period between operating the RF generator to apply RF power of the first magnitude and operating the tuning network to match an impedance of an RF system to a desired impedance with the electrodes being supplied the first magnitude of RF power.

REMARKS

This Amendment is submitted in response to the Office Action mailed on March 24, 2004. Claims 1-43 are currently pending, of which claims 20-43 have been withdrawn, claim 8 has been cancelled, and claims 1 and 3 have been amended. Applicant respectfully submits that this application is in complete condition for allowance and requests reconsideration of the application in this regard.

Restriction/Elections

Applicant hereby affirms the oral election without traverse of the claims of Group I, namely claims 1-19, for prosecution on the merits without prejudice to filing a separate divisional application directed to non-elected claims 20-43.

Rejection of Claims Under 35 U.S.C. § 112

Claim 3 stands rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Applicant respectfully disagrees. An adjustable-width workpiece holding portion is described on pages 27 and 28 of the written description considered in conjunction with Figures 6 and 7. Accordingly, Applicant requests that this rejection be withdrawn.

Rejections of Claims Under 35 U.S.C. § 102

Claims 1-2 and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,660,744 (hereinafter Sekine). Of the rejected claims, claim 1 is the only independent claim. The Examiner contends that Sekine shows or teaches all the elements of the

rejected claims, which is an absolute requirement for anticipation under 35 U.S.C. § 102. Applicant respectfully disagrees for the reasons set forth below.

The Examiner relies on disclosure in Sekine at column 21, lines 55-60 that refers to a baffle not shown in Sekine's drawings. Because Sekine does not even show a baffle, Sekine cannot and does not disclose the claimed vacuum distribution baffle. A reference cannot anticipate the invention in a claim unless the reference teaches each and every element in the precise arrangement set forth in the claim. If the reference fails to teach even one of the claimed elements, the reference does not and cannot anticipate the claimed invention. Therefore, Sekine does not anticipate independent claim 1. For at least this reason, Applicant respectfully requests that this rejection be withdrawn.

Applicant's claim 1, as amended, also recites a vacuum distribution baffle "formed from an electrically-insulating material," as formerly set forth in original dependent claim 8. As admitted in the Office Action by the Examiner with regard to the obviousness rejection of dependent claim 8, Sekine's vacuum distribution baffle is not formed from an electrically-insulating material. For at least this additional reason, Applicant respectfully requests that this rejection be withdrawn.

Applicant's claim 1, as amended, further recites a plasma excitation source, "an electrical feedthrough extending through said vacuum distribution baffle" and "a powered electrode positioned between said vacuum distribution baffle and said workpiece-holding portion and between said vacuum distribution baffle and said vacuum port." The powered electrode is "electrically connected to said plasma excitation source by said electrical feedthrough." The powered electrode is "electrically shielded from said vacuum chamber by said vacuum distribution baffle."

As amended, Applicant submits that claim 1 is patentable over Sekine in view of U.S. Patent No. 5,919,332 (hereinafter Koshiishi). Koshiishi discloses that a powered electrode (6) is positioned inside the inner periphery of an annular vacuum distribution baffle (43), as identified by the Examiner. The powered electrode (6), which is powered by RF source (44), is electrically isolated from the grounded vacuum chamber (3) by an insulating support plate (5). Koshiishi discloses at column 16, lines 35-44 that baffle (43) is constructed of an insulator, namely quartz. However, the baffle (43) in Koshiishi is not positioned between the powered electrode (6) and the vacuum port (42), as required by Applicant's claim 1. Instead, the baffle (43) is only positioned between the upper half of the powered electrode (6) and the vacuum port (42). The baffle (43) is not positioned between the lower half of the powered electrode (6) and the vacuum port (42). Therefore, baffle (43) does not shield the powered electrode (6) from the vacuum chamber (3), as also required by Applicant's claim 1 and as disclosed at page 17 lines 16-21 of Applicant's specification. To reinforce the presence of this deficiency, Koshiishi requires a separate insulating support plate (5) to provide suitable electrical shielding between the powered electrode (6) and the vacuum chamber (3). Consequently, the Examiner has failed to support *prima facie* obviousness as Koshiishi does not disclose or suggest Applicant's claimed invention. For at least these reasons, Applicant respectfully requests that this rejection be withdrawn.

Because claims 2 and 5 depend from independent claim 1, Applicant submits that these claims are also patentable for at least the same reasons discussed above. Furthermore, these claims recite unique combinations of elements not taught, disclosed or suggested by Sekine and/or Koshiishi.

Claims 1-2 and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP 3-002377 (hereinafter Matsuda). Of the rejected claims, claim 1 is the only independent claim. The Examiner contends that Matsuda shows or teaches all the elements of the rejected claims, which is an absolute requirement for anticipation under 35 U.S.C. § 102. Applicant respectfully disagrees for the reasons set forth below.

As remarked above, Applicant's claim 1, as amended, recites a vacuum distribution baffle formed from an electrically-insulating material, as formerly set forth in dependent claim 8. Although Matsuda discloses an annular baffle (17), Matsuda does not disclose that the baffle (17) is formed from an electrically-insulating material. A reference cannot anticipate the invention in a claim unless the reference teaches each and every element in the precise arrangement set forth in the claim. If the reference fails to teach even one of the claimed elements, the reference does not and cannot anticipate the claimed invention. Therefore, Matsuda does not anticipate independent claim 1. For at least these reasons, Applicant respectfully requests that this rejection be withdrawn.

Because claims 2 and 5 depend from independent claim 1, Applicant submits that these claims are also patentable for at least the same reasons discussed above. Furthermore, these claims recite unique combinations of elements not taught, disclosed or suggested by Matsuda.

Claims 11-13 and 18-19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,035,804 (hereinafter Arami). Of the rejected claims, claims 11 and 18 are the only independent claims. The Examiner contends that Arami shows or teaches all the elements of the rejected claims, which is an absolute requirement for anticipation under 35 U.S.C. § 102. Applicant respectfully disagrees for the reasons set forth below.

Applicant's claim 11 sets forth an apparatus that includes a chamber having a chamber base, an access member movable between an open position and a closed position, a sealing member between the chamber base and the movable access member, and a hinge coupling the chamber base to the access member in which the hinge includes "at least one obround bearing groove for accommodating substantially vertical compression of the sealing member as vacuum pressure is applied through said vacuum port." At page 3, line 29 to page 4, line 5 of the written description, Applicant describes that:

> [t]he obround bearing groove accommodates a substantially vertical compression of the sealing member or O-ring between the access member and the base when a vacuum pressure exists within the processing chamber. By constraining lateral movement between the lid and base, abrasion of the surface of the sealing member is significantly reduced and the lifetime of the sealing member is substantially extended. Further, the lid and base are uniformly sealed along all points of contact with the sealing member due to the uniform substantially vertical compression.

The Examiner contends in paragraph 8 of the Office Action that Arami discloses an "access member (12) which can be opened or closed" and a "hinge coupling (12)." Assuming for the sake of argument only that the object that the Examiner has identified with reference numeral (12) in Arami is both an access member and a hinge coupling, the written description of Arami discloses that object (12) is an arm that is used to pivot electrode (9) away from the chamber when performing maintenance on the processing chamber. As shown by the sequence indicated by the dotted and dashed lines in Figure 2 of Arami and as described at column 6, lines 42-50 of Arami, the arm (12) is used to pivot the electrode (9) from an initial position shown in Figure 3 through 180° to a final position in which the electrode (9) is inverted and spaced from the chamber, as shown in Figure 4. The arm (12) is pivoted about what appears to be a conventional hinge coupling having a circular bearing groove.

Consequently and in marked contrast to Applicant's claim 11, Arami does not disclose, teach or suggest that the arm (12) is mounted using a hinge coupling having an obround bearing groove. Furthermore, Arami does not provide any suggestion or motivation to provide the hinge with an obround bearing groove. Although the written description of Arami is silent as to the configuration of the hinge, Arami's drawings show a circular bearing groove that receives a cylindrical hinge pin. Hence, when vacuum is applied to the Arami chamber, the electrode (9) supported by the arm (12) cannot move vertically to compress sealing member (7). As a result, electrode (9) in Arami does not move substantially vertically as the chamber is evacuated but, instead, is constrained by the engagement of the cylindrical hinge pin in the circular groove to have a non-vertical or lateral component of movement. This lateral movement reduces the lifetime of the sealing member (7) and degrades the quality or uniformity of the seal provided by the sealing member (7).

In order for a reference to anticipate the invention in a claim, the reference must teach each and every element in the precise arrangement set forth in the claim. If the reference fails to teach even one of the claimed elements, the reference does not and cannot anticipate the claimed invention. Because Arami fails to disclose the claimed obround bearing groove, Arami does not anticipate independent claim 11. For at least these reasons, Applicant respectfully requests that this rejection be withdrawn.

Because claims 12 and 13 depend from independent claim 11, Applicant submits that these claims are also patentable for at least the same reasons discussed above. Furthermore, these claims recite unique combinations of elements not taught, disclosed or suggested by Arami.

Applicant's claim 18 discloses "a lid coupled with the chamber and movable between open and closed positions for introducing and removing the workpiece to and from said

workpiece holding portion of said processing space." The claim further sets forth "a process gas inlet port in said lid and coupled in fluid communication with said processing space when said lid is in said closed position."

Figure 8 of Arami discloses a showerhead (104) for providing gas to a processing space defined inside of a chamber (3, 4). The showerhead (104) constitutes a portion of an electrode (9). However, Arami does not disclose that the showerhead (104) and electrode (9) collectively constitute a lid that is moveable between open and closed positions for introducing and removing workpeces to and from a workpiece holding portion. Instead, the electrode (9) is merely removable for performing maintenance. Arami discloses that the chamber (3, 4) is connected with other process chambers and/or a load lock chamber, as described at column 7, lines 58-63 of Arami, commonly used for introducing wafers into the processing space of a chamber. Arami fails to disclose the claimed lid having a process gas inlet port. For at least this reason, Arami does not anticipate independent claim 18. Therefore, Applicant respectfully requests that this rejection be withdrawn.

Because claim 19 depends from independent claim 18, Applicant submits that this claim is also patentable for at least the same reasons discussed above. Furthermore, this claim recites a unique combination of elements not taught, disclosed or suggested by Arami.

Rejection of Claims under § 103(a)

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sekine in view of U.S. Patent No. 5,710,407 (hereinafter Moore). The Examiner contends that it would have been obvious to one of ordinary skill in the art to modify Sekine to include an

"adjustable mechanism for varying width workpieces" as allegedly taught by Moore. Applicant respectfully disagrees with the Examiner's contention for the reasons set forth below.

Because claim 3 depends from independent claim 1, Applicant submits that this claim is also patentable for at least the same reasons discussed above. Furthermore, this claim recites a unique combination of elements not taught, disclosed or suggested by the combination of Sekine and Moore.

Claim 3 is patentable for additional reasons. The Examiner has failed to provide a sufficient suggestion or motivation for combining Moore with Sekine. Specifically, the Examiner's stated rationale to combine these references found at paragraph 10 of the Office Action is that it would have been obvious "to have used susceptor adjustable for varying size of a hinge to conveniently open and close the lid." Applicant cannot discern a proper motivation from the language of the Examiner's statement. Because the Examiner has failed to provide a suggestion or motivation, the Examiner has not established a *prima facie* case of obviousness.

Assuming, *arguendo*, that one could combine Sekine and Moore, the resulting apparatus would not include all the elements set forth in claim 3. Applicant submits that Moore does not disclose or suggest a workpiece-holding portion that is adjustable in width to accommodate workpieces of varying width. Although Moore discloses, for example, that wafers of different sizes may be processed, Moore does not disclose or suggest that the workpiece-holding portion (i.e., susceptor) is adjustable in width. In particular, Applicant cannot find any relevant disclosure or suggestion in the description of Figures 14F and 14G cited by the Examiner in paragraph 11 of the Office Action. Moore does describe at column 34, lines 41-48 that the entire susceptor is replaced if the wafer size is changed. It follows that Moore discloses the use of multiple susceptors, each of which accommodates a single wafer size. Moore does not

disclose adjusting any portion of a single susceptor to accommodate different wafer sizes. Consequently, the Examiner has failed to support *prima facie* obviousness. For at least this additional reason, Applicant respectfully requests that this rejection be withdrawn.

Claims 4, 6-7, 9-10, and 14-17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sekine in view of Arami. Claim 14 is the only independent claim from among the group of rejected claims. The Examiner contends that it would have been obvious to one of ordinary skill in the art to modify Sekine to include a plasma chamber with a hinge coupling as allegedly taught by Arami. Applicant respectfully disagrees for the reasons set forth below.

Applicant's independent claim 14 sets forth an apparatus having a powered electrode positioned on one side of a workpiece holding portion and a ground electrode positioned on an opposite side of the workpiece holding portion relative to the powered electrode. Claim 14 recites that the powered electrode and the ground electrode are approximately equidistant from the workpiece holding portion. The approximately equidistant location of the workpiece holding portion to the powered and ground electrodes produces an electric field that is substantially perpendicular to a workpiece held by the workpiece holding portion.

Applicant submits that neither Sekine nor Arami teaches, discloses or suggests positioning the workpiece and workpiece holding portion approximately equidistant between the powered and ground electrodes. In fact, the Examiner fails to point to any disclosure in either Sekine or Arami that teaches or even suggests approximately equidistant placement of the workpiece between the electrodes. Moreover, Applicant cannot find a reference in either Sekine or Arami to approximately equidistant placement of the workpiece between the electrodes. For example, Arami discloses in Figure 8 that the wafer (W) is positioned on an upper surface of one

electrode (24). Therefore, the wafer (W) cannot be equidistantly positioned between electrodes (24) and (9). Consequently, the Examiner has failed to support *prima facie* obviousness. For at least this reason, Applicant respectfully requests that this rejection be withdrawn.

Because claims 15-17 depend from independent claim 14, Applicant submits that these claims are also patentable for at least the same reasons discussed above. Furthermore, these claims recite unique combinations of elements not taught, disclosed or suggested by the combination of Sekine and Arami.

Because claims 4, 6-7, and 9-10 depend from independent claim 1, Applicant submits that these claims are also patentable for at least the same reasons discussed above. Furthermore, these claims recite unique combinations of elements not taught, disclosed or suggested by the combination of Sekine and Arami. For example, claim 4 is also patentable for at least the same reasons as independent claim 11, and claim 6 is patentable for at least the same reasons as claim 14.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Sekine in view of U.S. Patent No. 5,919,332 (hereinafter Koshiishi). The Examiner contends that it would have been obvious to one of ordinary skill in the art to modify Sekine to include a vacuum baffle formed from an electrically insulating material as allegedly taught by Koshiishi. Applicant has cancelled claim 8 and amended claim 1 to incorporate the language formerly found in claim 8. The rejection over Koshiisi is addressed above in Applicant's remarks concerning claim 1. Hence, Applicant requests that the rejection be withdrawn.

CONCLUSION

Applicant has made a *bona fide* effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing amendments and remarks, this application is submitted to be in complete condition for allowance and, accordingly, a timely notice of allowance to this effect is earnestly solicited. If there is any additional matter that may be resolved by telephone or fax, the Examiner is invited to contact the undersigned to expedite issuance of this application.

Applicant does not believe that any fees are due in connection with this response. However, if such petition is due or any other fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to deposit account 23-3000.

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

William R Allen

William R. Allen
Reg. No. 48,389

2700 Carew Tower
441 Vine Street
Cincinnati, Ohio 45202
(513) 241-2324
(513) 421-7269 (fax)